

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-008818**Date Inspected:** 02-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 715**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Li Min, Mr. Zhan Bo, Mr. Chen Ying Xin

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

**Tower Bay 10**

This QA Inspector observed ZPMC welder Mr. Wang Gong Zhi, stencil 050041 is using flux cored welding process WPS-345-FCAW-3G (3F) Repair to perform base metal buildup welds on the end of tower stiffener splice plate weld SSDI-SA108. This QA Inspector observed ZPMC CWI Quality Control Inspector Mr. Chen Ying Xin monitoring this welding and he informed this QA Inspector that this buildup is documented on TCR97, which has verbally been approved by Caltrans Engineering, pending formal written approvals. This QA Inspector measured a welding current of approximately 200 amps and 24.0 volts. This QA Inspector observed ZPMC appears to have preheated the base material with electrical heating elements prior to welding and ZPMC CWI Mr. Chen Ying Xin used a 180 Celsius temperature indicating crayon to verify the base material had been properly preheated prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Kui, stencil 203977 is using flux cored welding process WPS-345-FCAW-3G (3F) Repair to perform base metal buildup welds on the end of tower stiffener splice plate

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SSDI-SA108. This QA Inspector observed ZPMC Quality Control Inspector Mr. Chen Ying Xin monitoring this welding. This QA Inspector observed ZPMC appears to have preheated the base material with electrical heating elements prior to welding and ZPMC CWI Mr. Chen Ying Xin used a 180 degree Celsius temperature indicating crayon to verify the base material had been properly preheated prior to welding. Items observed on this date appeared to generally comply with applicable contract documents

This QA Inspector observed ZPMC welder Mr. Xu Xiuping, stencil 057244 is using welding WPS-B-T-2233-B-U2A-F-1 to make weld SSTL3-K/K-36. The QA Inspector observed a welding current of approximately 215 amps and 24.0 volts. This QA Inspector observed that Mr. Xu Xiuping is certified to make this weld. The QA Inspector observed Quality Control (QC) inspector Mr. Yuan Hui Gong monitoring this welding and he used a 110 degree Celsius temperature indicating crayon to confirm the base material is properly preheated. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Bu Xue Zhen, stencil 052075 is using welding WPS-B-T-2233-B-U2A-F-1 to make tower weld SSTL3-K/K-32. The QA Inspector observed a welding current of approximately 220 amps and 26.0 volts. This QA Inspector observed that Mr. Xu Xiuping is certified to make this weld. The QA Inspector observed Quality Control (QC) Certified Welding Inspector Mr. Yuan Hui Gong monitoring this welding and he used a 110 degree Celsius temperature indicating crayon to confirm the base material is properly preheated. Items observed on this date appeared to generally comply with applicable contract documents.

### Tower Bay 11

This QA Inspector observed ZPMC welder Mr. Zhao Guiting, stencil 040723 is using flux cored welding process WPS-345-FCAW-2G (2F) Repair to make stiffener plate repair welds on tower skin plate WSD1-DPSA3-53-1A. The QA Inspector observed ZPMC Quality Control Inspector Mr. Li Jun monitoring this welding and he informed this QA Inspector that the reason for these repairs is due to ultrasonic weld rejections. The QA Inspector measured a welding current of approximately 310 amps and 28.0 volts. The QA Inspector observed ZPMC appears to have preheated the base material with electrical heating elements prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Rujia stencil 066882, is using welding procedure WPS-B-P-4333-TC-P5-F to make tower skin doubler plate flux cored weld WSD1-FDSA4-C/D-8. This QA Inspector observed ZPMC Quality Control CWI Mr. Li Jun monitoring the welding parameters, base material preheat and interpass temperatures. This QA Inspector observed Mr. Wang Rujia is certified to make this weld. This QA Inspector measured a welding current of approximately 310 amps, 28.0 volts and Mr. Li Jun has recorded a welding current of 309 amps and 30.2 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ni Haibing stencil 08923, is using welding procedure WPS-B-P-4333-TC-P5-F to make tower skin doubler plate flux cored weld WSD1-FDSA4-C/D-3. This QA Inspector observed ZPMC Quality Control CWI Mr. Li Jun appears to be monitoring the welding parameters, base material preheat and interpass temperatures. This QA Inspector observed Mr. Ni Haibing is certified to make this weld. This QA Inspector measured a welding current of approximately 300 amps, 31.5 volts. Items observed on

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this date appeared to generally comply with applicable contract documents.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Zhao Jibo, stencil 055564 is using flux cored welding procedure WPS-B-T-2233-B-U2-F to make weld SSD18-PP88-033. The QA Inspector observed a welding current of approximately 210 amps and 24.5 volts. This QA Inspector observed that Mr. Zhao Jibo is certified to make this weld. The QA Inspector observed Quality Control (QC) personnel monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yuan Wensong, stencil 055491 is using welding procedure WPS-B-P-2231-B-U2-F to make flux cored weld SEG056-011 at PP80. The QA Inspector observed a welding current of approximately 220 amps and 24.3 volts. This QA Inspector observed that Mr. Yuan Wensong is certified to make this weld. The QA Inspector observed Quality Control (QC) personnel monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

See above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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